



INTERNATIONAL LAKE SUPERIOR BOARD OF CONTROL



United States

BG Steven R. Hawkins, Member
Mr. John W. Kangas, Secretary

Canada

Mr. Peter P. Yee, Member
Mr. Peter Yee, Secretary

December 13, 2002

Dr. Gerald E. Galloway, Jr.
Secretary, U.S. Section
International Joint Commission
1250 23d Street, NW
Suite 100
Washington, DC 20440

Dear Dr. Galloway:

On February 28, 2002, the Board submitted a report to the Commission on peaking and ponding operations by the hydropower plants at Sault Ste. Marie, Michigan and Ontario. The report recommended that peaking and ponding operations be allowed to continue for at least one more year using the interim guidelines developed by the Board. The Commission accepted the Board's report and on March 15, 2002, extended the authority given to the power entities to continue to conduct peaking and ponding operations until March 20, 2003. The Commission also requested a follow-up report be provided by December 15, 2002 on its observations and studies to date. This letter report is based upon on the Board's findings and experience to-date.

The guidelines governing peaking and ponding call for the Board to determine at the beginning of each month whether peaking and ponding operations can proceed for the month. The Board may suspend ponding operations for the month, or a portion thereof, if it expects that ponding operations would result in sustained weekend levels at U.S. Slip Gauge declining below chart datum. A copy of the Board's March 28, 2002 letter to the Power Entities outlining the steps it will follow in determining if ponding will be approved is included in Enclosure A. Based on the anticipated pattern of peaking and ponding operations for the month, the U.S. Regulation Representative's office issues, at the beginning of the month, expected hourly flows of the St. Marys River at Sault Ste. Marie. This information is distributed to the hydropower and shipping interests, the U.S. Coast Guard Group Sault Ste. Marie, the U.S. Army Corps of Engineers, and Environment Canada.

Since these guidelines came into effect, levels at the U.S. Slip were above chart datum from May through November. Suspension of ponding was required only for the months of April and December in 2002 as a result of low flows in the St. Marys River and water level conditions on Lakes Michigan-Huron. During these months, an eight-hour duration of peak hydropower flow was provided on weekend days to assist shippers. April was also the only month when shippers expressed concern about being able to transit the St. Marys River due to low levels. A review of the April U.S. Coast Guard's vessel transit (VTS) logs for April 2002 indicate that the St. Marys River was closed several times due to low visibility as the result of fog in the area. The Canadian vessel "Algowood" ran aground during one of these periods. See Enclosure B for

a summary and discussion of the VTS logs and the various factors affecting travel and resulting in anchorage delays on the St. Marys River during April 2002.

During May and June, with U.S. Slip Gauge water levels expected to remain above datum, the hydropower plants conducted peaking and ponding operations with no restrictions. Higher lake levels and Lake Superior outflows allowed them to operate at, or near, capacity from July through November. During July, there were several short-term reductions in flows at the power plants for maintenance purposes. However, there were no reports of any problems or concerns related to these flow changes by navigation nor other users. It should be noted that Edison Sault Electric Company was operating at capacity for much of the time due to reduced capacity at the U.S. Government hydropower plant during its automation work.

In September and October, the Board invited the hydropower entities, navigation interests and offices of the Great Lakes Fishery Commission and Sea Lamprey Control Centre to comment on the peaking and ponding that has taken place this year to-date, and their experience with water levels and flows in the St. Marys River. Their responses are contained in the enclosures and briefly summarized in the following paragraphs.

In its November 7, 2002 letter Edison Sault Electric Company (ESEC) commented on its operations and its compliance with the Board's directives on ponding. ESEC called attention to the September 20, 2002 diving operation that required a substantial reduction in their power canal flow, but with no apparent impact on users. They requested that peaking and ponding operations be allowed to continue. Great Lakes Power Limited had no comments on peaking and ponding experiences during 2002. Comments from the hydropower entities are contained in Enclosure C.

Navigation interests were queried as to any water level problems they experienced on the St. Marys River this year. The Lake Carriers' Association, Shipping Federation of Canada and Fednav International Limited have responded by e-mail. The U.S. Great Lakes Shipping Association responded by telephone. They all indicated that no problems related to peaking and ponding operations were experienced. Copies of the e-mails are contained in Enclosure D.

The Great Lakes Fishery Commission and the Sea Lamprey Control Centre were contacted and invited to comment on their observations regarding the effects of peaking and ponding operations on the St. Marys River sea lamprey program to date this year. Their comments are included in Enclosure E. Briefly, they did not experience any deleterious effects of peaking and ponding on the sea lamprey control program. The Board has invited them to the March 2003 Board meeting in Chicago for further discussions of this matter.

To help further understanding of the effects of peaking and ponding operations on the St. Mary's River, the Board's technical staff has determined that a 2-dimensional model/analysis would be needed. It was decided, as discussed in Enclosure F, to develop a new 2-dimensional model that can model levels and flows including flow circulation around Sugar Island in the St. Marys River. It will be at least a year before a working model and results pertinent to the St. Marys River's response to peaking and ponding can be obtained.

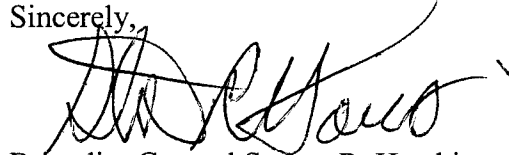
The April 18, 2002 report by Environmental Resources Management commissioned by the IJC to follow up on any environmental issues associated with peaking and ponding concluded

that, while further study is warranted by other agencies, peaking and ponding was not considered to have a significant, if any, impact on the St. Marys River wetlands, fish habitats, or sea lamprey control programs. Should the water level and flow pattern experienced this year continue, or increase in the coming years, the 2-dimensional model of the St. Marys River discussed above will be a valuable tool for evaluating the potential effects of lower flows and levels on the St. Marys River aquatic and wetland habitats.

In summary, the interim guidelines and the mechanism of disseminating information to the public appear to be working very well. The water levels and hydropower flows experienced from April to the present are shown in the attached tables and graphs. Based on these experiences, and the discussion above, the Board recommends that the Commission extend the authority given to the power entities to conduct peaking and ponding operations for at least another year, through the winter of 2003-2004. This extension will enable the Board to collect additional data, and provide time to continue with the modeling development and analyses.

A similar letter has been sent by the Canadian Board Member to the Canadian Secretary of the Commission.

Sincerely,

A handwritten signature in black ink, appearing to read "Steve Hawkins", written over a horizontal line.

Brigadier General Steven R. Hawkins
Member for the United States
International Lake Superior Board of Control

Attachment

Enclosures:

- A. March 28, 2002 letter from the Board to hydropower.
- B. Discussion of U.S. Coast Guard Group Sault Ste. Marie April 2002 VTS Logs.
- C. Comments from the Hydropower entities.
- D. Comments from Navigation entities.
- E. Great Lakes Fishery Commission / Sea Lamprey Control Centre comments.
- F. Discussion of hydraulic model.

Copies Furnished:

LTC T. Magness

Mr. P. Yee (w/o Encl)

Water Levels (Meters)

Lake Michigan - Huron

U.S. Slip Gauge

Month	Mean	Max. Day	Min. Day	Mean	Max. Day	Min. Day
April	176.06	176.14	175.99	176.37	176.60	176.23
May	176.19	176.25	176.14	176.47	176.54	176.35
June	176.29	176.34	176.25	176.59	176.67	176.41
July	176.33	176.35	176.32	176.66	176.71	176.62
August	176.32	176.34	176.29	176.68	176.74	176.61
September	176.24	176.30	176.18	176.61	176.71	176.51
October	176.14	176.20	176.06	176.50	176.67	176.37
November	176.01	176.06	175.92	176.39	176.46	176.26
December	N/A	N/A	N/A	N/A	N/A	N/A
	N/A	Not available at this time				

Hydropower Flow Rates (m³s)

U.S. Government Plant

Month	Mean	Max. Day	Min. Day
April	406	414	388
May	407	414	390
June	352	428	244
July	306	373	265
August	277	357	256
September	271	337	200
October	255	265	233
November	303 **	N/A	N/A
December	380 **	N/A	N/A

** Provisional

N/A Not available at this time

Hydropower Flow Rates (m³s)

Edison Sault Electric Company

Month	Mean	Max. Day	Min. Day	Max. Hour	Min. Hour
April	457	527	408	684	177
May	558	649	367	763	194
June	665	726	427	759	419
July	758	773	731	823	624
August	765	783	719	801	541
September	761	790	625	809	134
October	750	775	654	810	638
November	752	778	720	800	576
December	603 **	N/A	N/A	N/A	N/A

** Provisional

N/A Not available at this time

Hydropower Flow Rates (m³s)

Great Lakes Power Ltd.

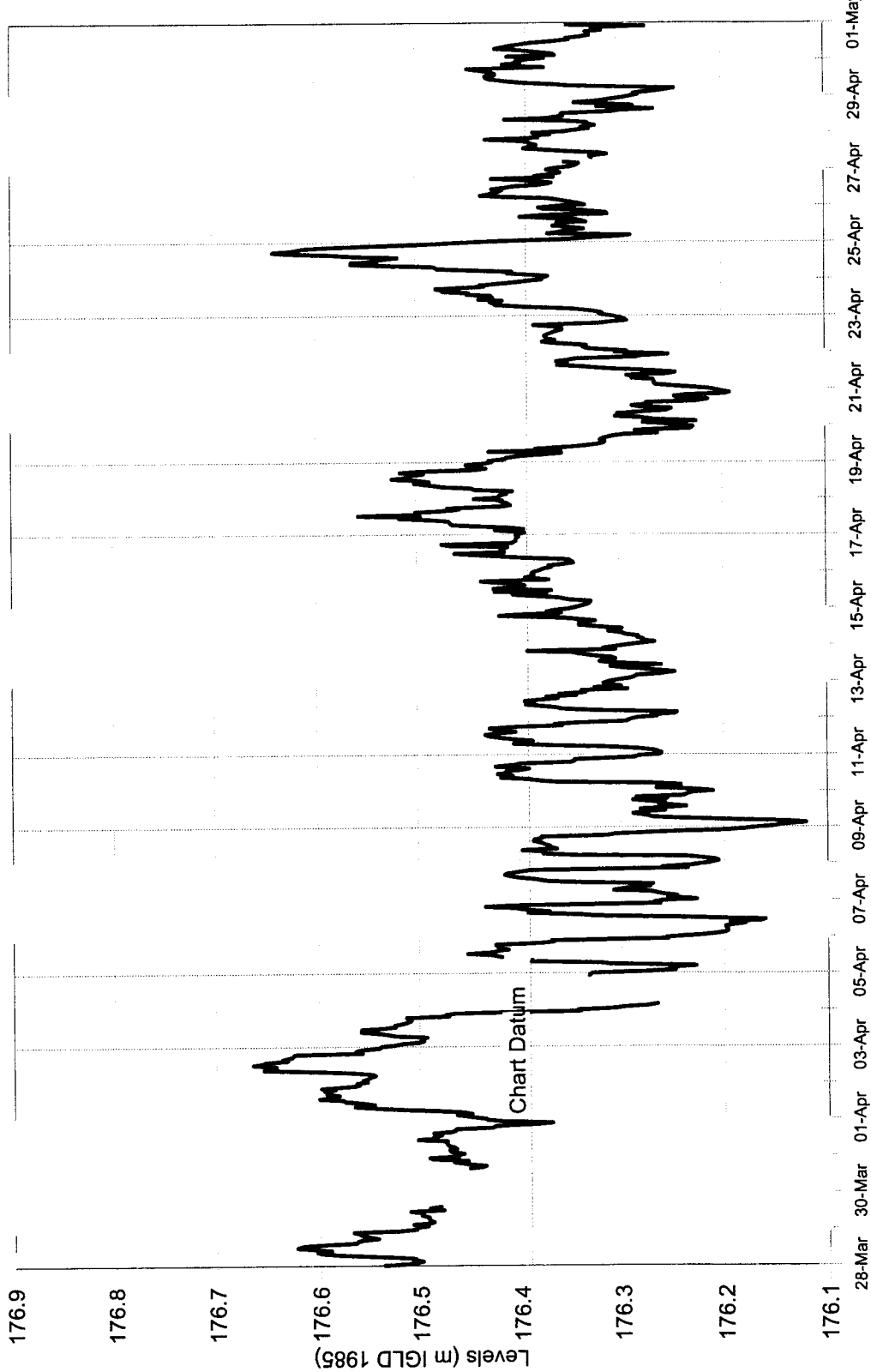
Month	Mean	Max. Day	Min. Day	Max. Hour	Min. Hour
April	861	1034	524	1131	283
May	959	1076	634	1161	607
June	1006	1098	831	1197	0
July	1041	1088	703	1196	0
August	1079	1162	1002	1190	706
September	1038	1085	944	1132	834
October	1035	1108	915	1147	372
November	1046	1136	897	1185	420
December	983 **	N/A	N/A	N/A	N/A

** Provisional

N/A Not available at this time

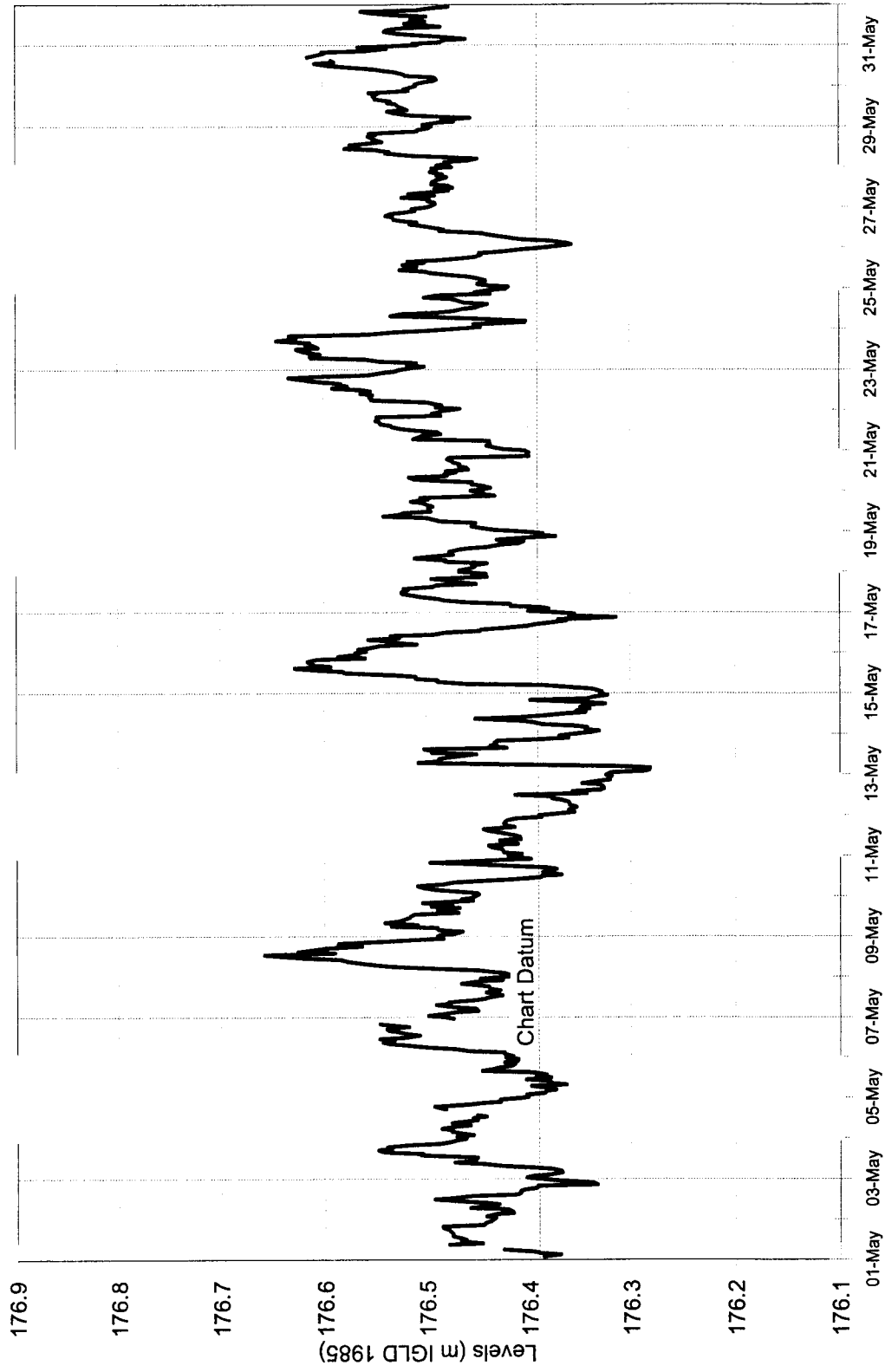
Hourly U.S. Slip Levels

April 2002



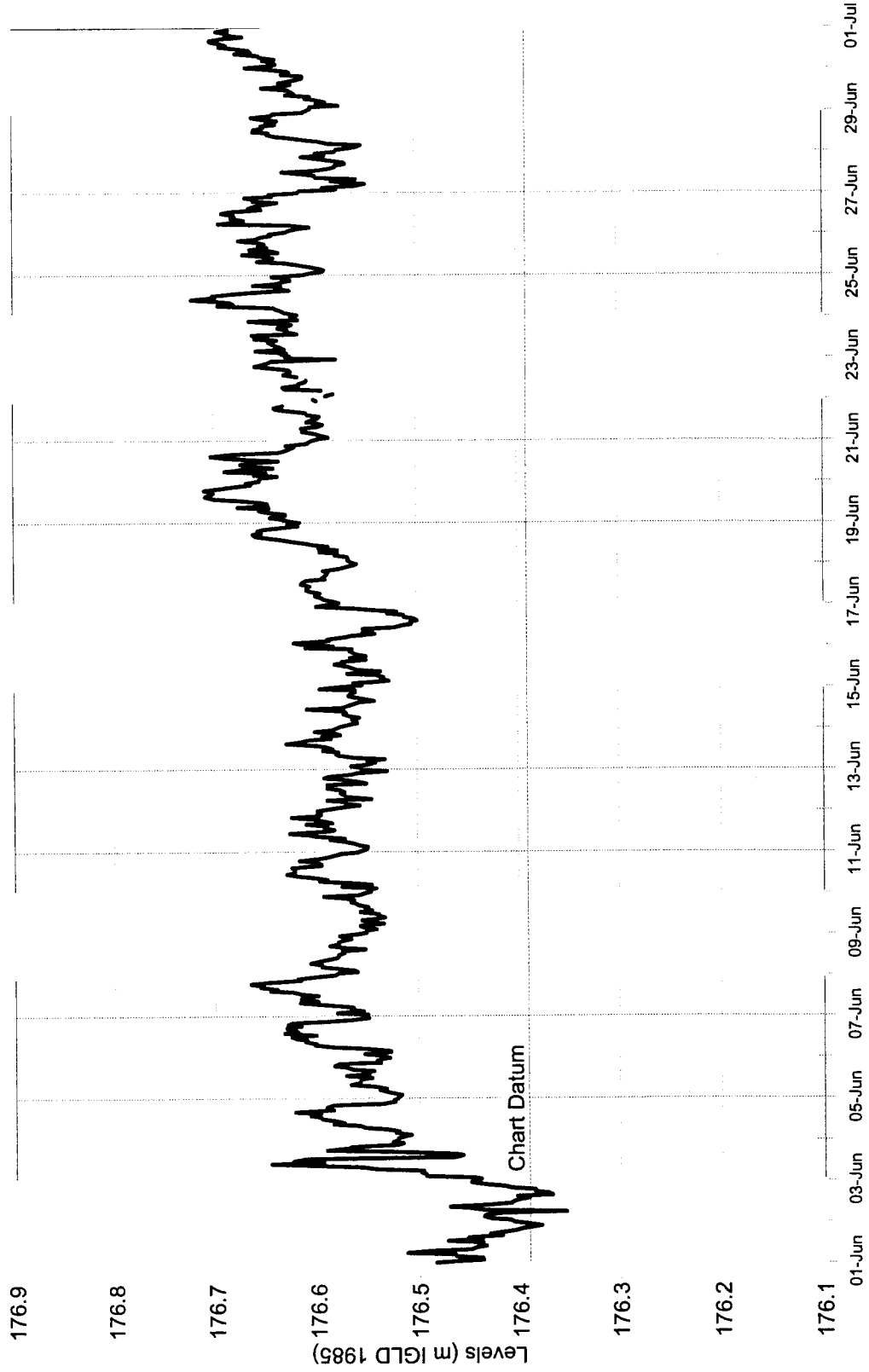
Hourly U.S. Slip Levels

May 2002

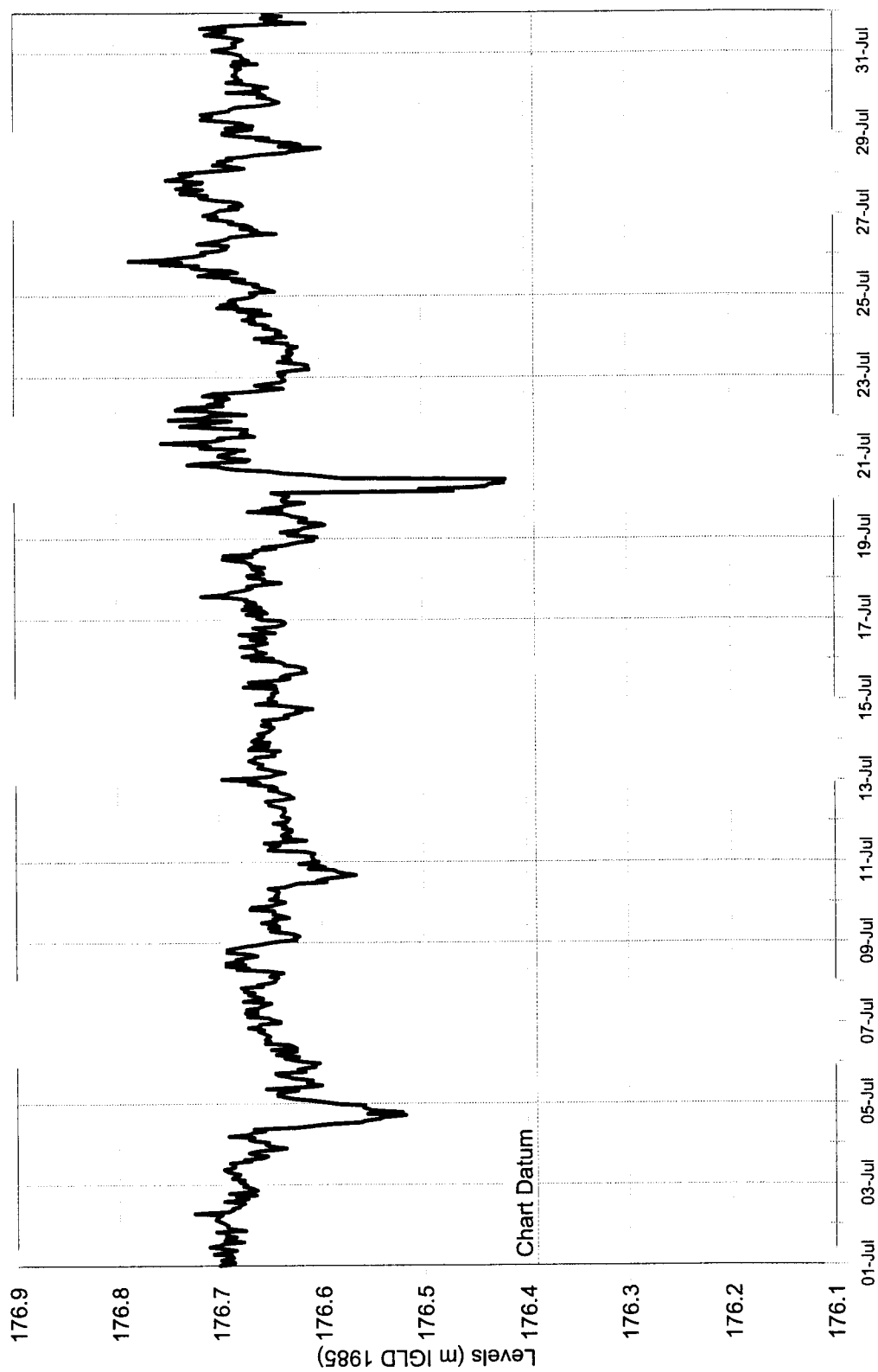


Hourly U.S. Slip Levels

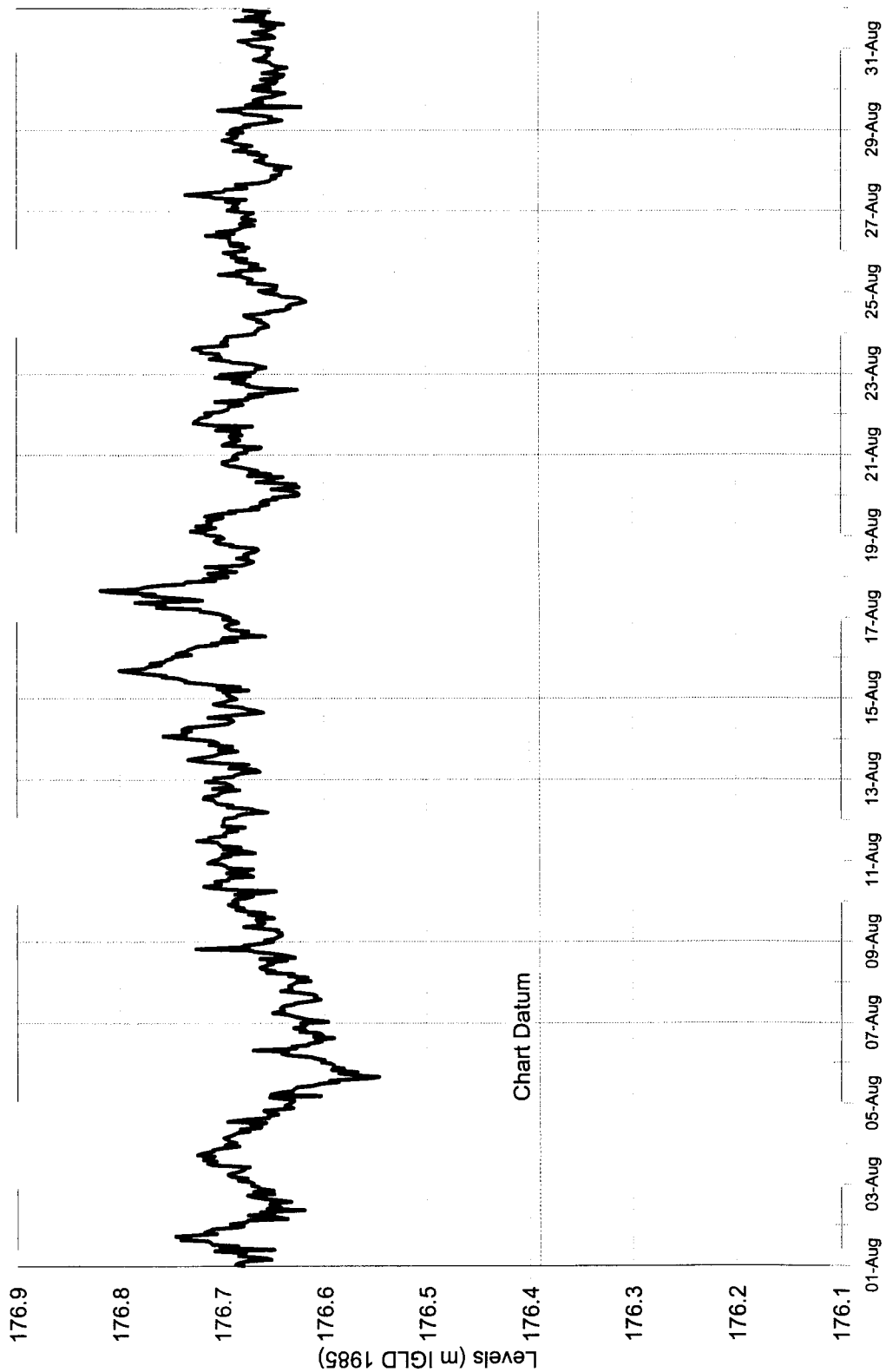
June 2002



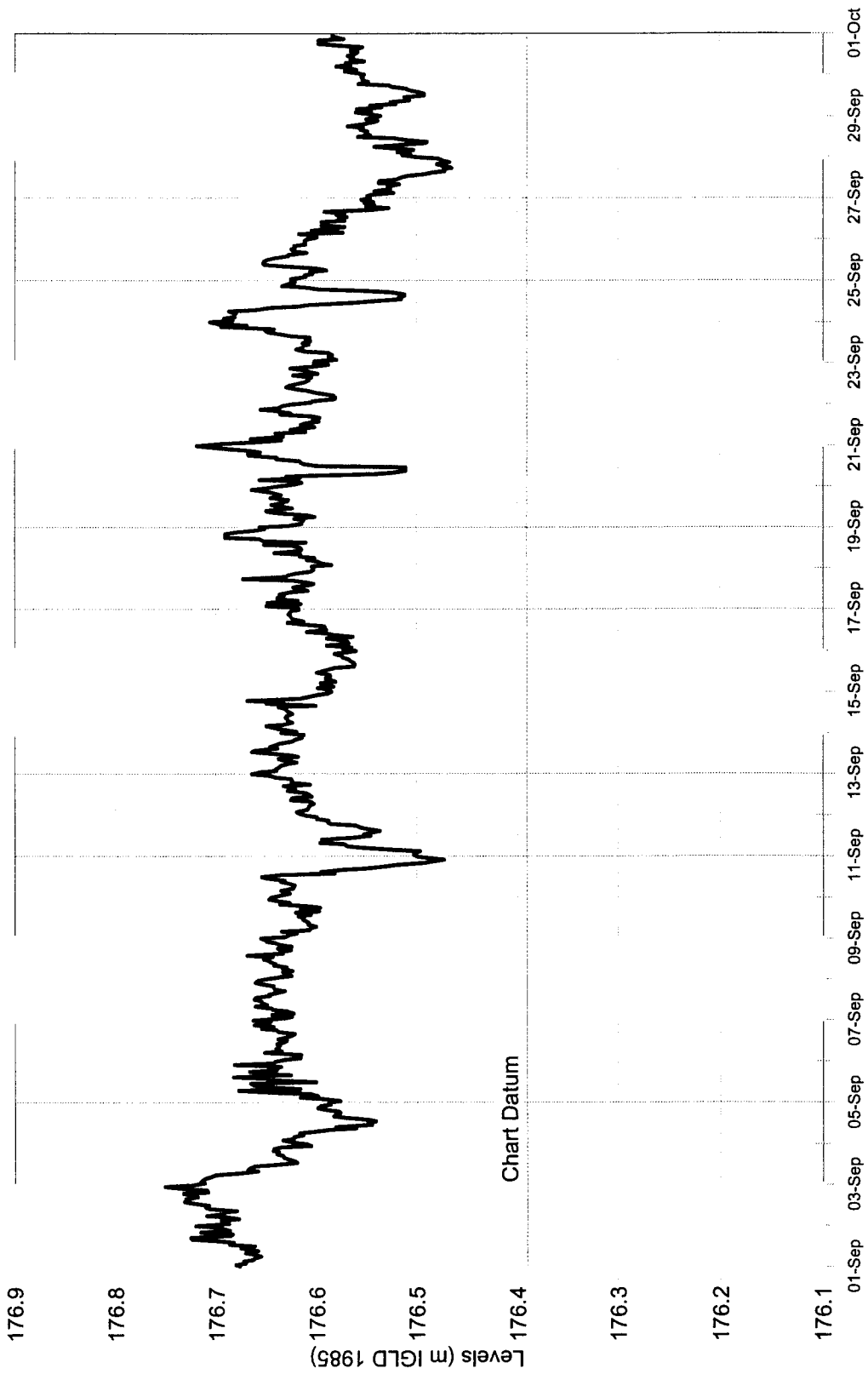
Hourly U.S. Slip Levels
July 2002



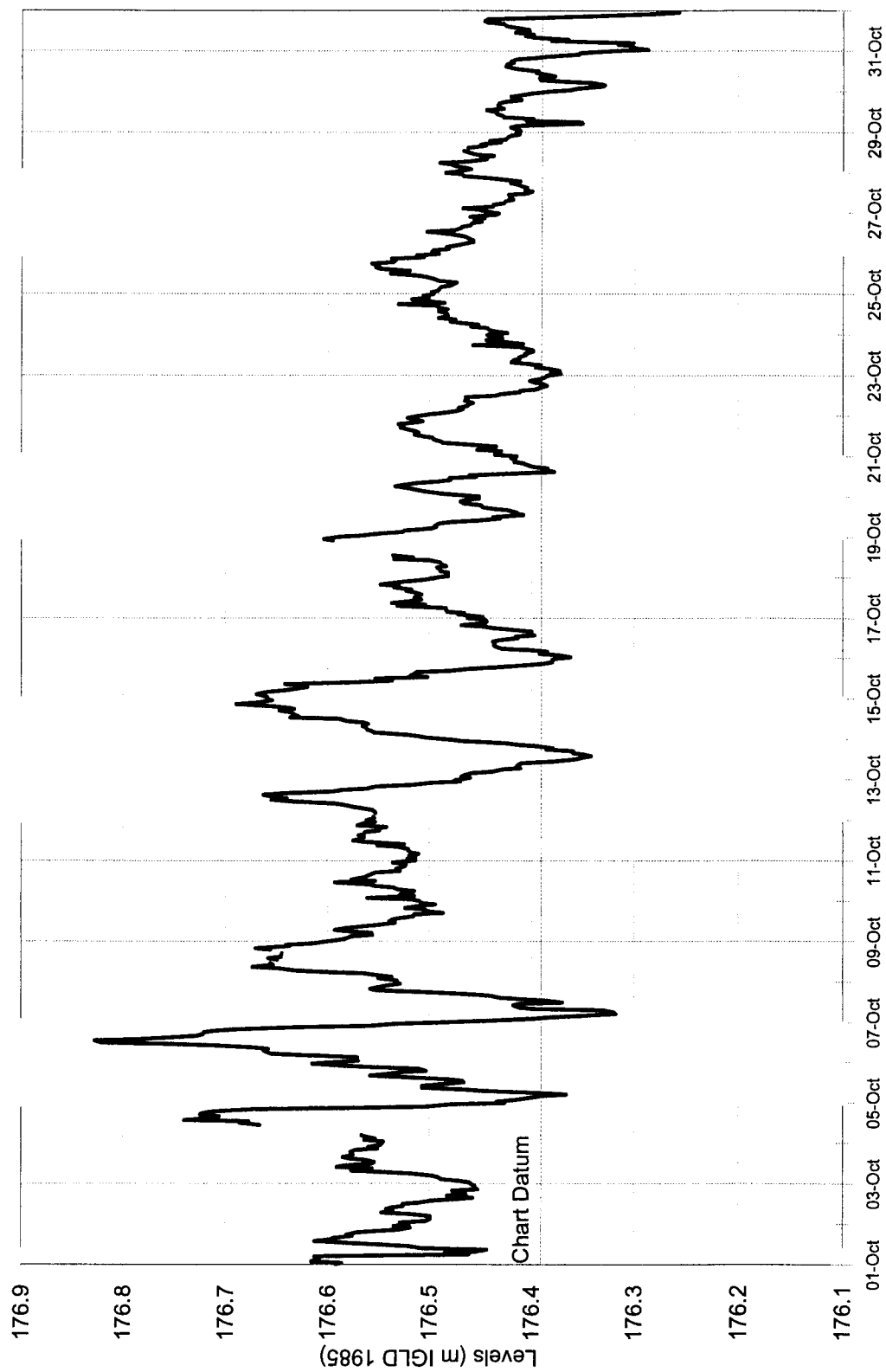
Hourly U.S. Slip Levels
August 2002



Hourly U.S. Slip Levels
September 2002

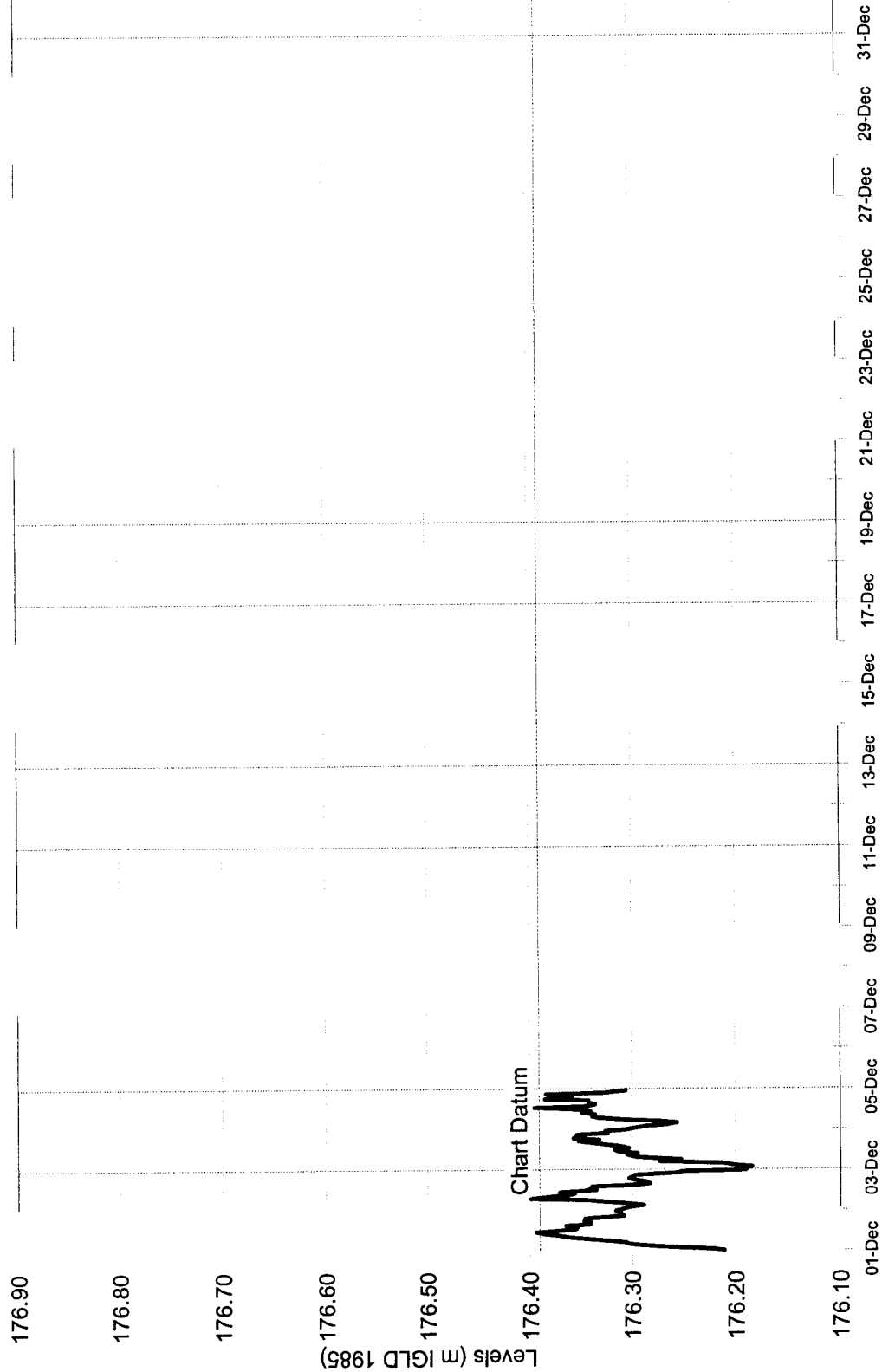


Hourly U.S. Slip Levels
October 2002



Hourly U.S. Slip Levels

December 2002

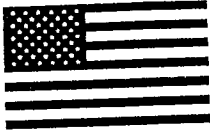


Enclosure A

(Letters)

Contents:

1. March 28, 2002 letter from the Board to ESEC discussing implementation of peaking and ponding approval and monitoring procedures.
2. March 15, 2002 letter from the IJC to the Board regarding extension of peaking and ponding authority and the Board's monitoring responsibilities.
3. March 15, 2002 letter from the IJC to ESEC regarding extension of peaking and ponding authority and the Board's monitoring responsibilities.



United States
BG Steven R. Hawkins, Member
Mr. John W. Kangas, Secretary

INTERNATIONAL LAKE SUPERIOR BOARD OF CONTROL



Canada
Mr. Doug Cuthbert, Member
Mr. Peter Yee, Secretary

March 28, 2002

Mr. Donald Sawruk, President
Edison Sault Electric Company
725 East Portage Avenue
Sault Ste. Marie, Michigan 49783

Dear Mr. Sawruk:

The International Joint Commission (IJC) extended the authority for Edison Sault Electric Company (ESELCO) and Great Lakes Power Ltd. (GLPL) to conduct peaking and ponding operations until March 20, 2003. As stated in its March 15, 2002 letter, such operations shall be carried out under the supervision of the International Lake Superior Board of Control (Board), and shall be subject to prior approval from the Board at the beginning of each month. These operations also must be consistent with the ESELCO and GLPL (Power Entities) February 8, 2002 submission to the IJC. The Board has also considered Edison Sault's letter of March 27, 2002. This letter outlines the steps the Board will follow to approve and monitor peaking and ponding operations each month.

(a). About one week prior to the end of the month, a preliminary determination of the next month's Lake Superior outflow, and water allocations for hydropower purposes, will be made by the Board and provided to the Power Entities. By the last working day of the month, the Power Entities will notify the Board of the expected number of off-peak days for the coming month, and further, whether any changes are expected to the flow allocation schedule outlined in the Power Entities 8 February submission to the IJC.

(b) Recognizing that ponding may or may not be suspended for the coming month, the Power Entities shall mutually coordinate, and provide for the Board's approval, two preliminary flow schedules for the coming month. One schedule should be prepared assuming that ponding will be permitted to occur on weekends and holidays. The other schedule shall assume that ponding will be suspended on weekends and holidays and shall include a scheduled period of at least eight (8) hours of peak flows for such days. The flows during this eight hour period shall not be less than the planned peak flows during weekdays. The start and end times of the such eight (8) hour time block(s) shall be coordinated and designated by the Power Entities in their proposed peaking and ponding schedule. The proposed eight (8) hour time span shall be concurrent and may be contained within longer daily scheduled time blocks.

(c). Within 2 working days of the beginning of each month, the Board will inform the Power Entities of the monthly outflow specified by Regulation Plan 1977-A, and the amount of water available for hydropower purposes for each. Based upon the expected U.S. Slip levels and the outflows outlined in the two preliminary schedules of hydropower operations, the Board will inform the Power Entities whether ponding operations are suspended for the month, or a portion

thereof. The Power Entities shall adjust the appropriate preliminary schedule such that the total monthly outflow according to the schedule equals the monthly mean outflow specified by the regulation plan. This outflow schedule for the month will then be reviewed and approved by the Board. The Board representatives will provide the navigation interests, other interests, and the public the expected St. Marys River flow for various periods of the month in accordance with the coordinated peaking and ponding schedule.

(d) During the month, the Power Entities shall conduct peaking and ponding operations in accordance with the approved schedule. However, the Power Entities may be required by the Board to suspend peaking or ponding operations (or both), even if previously approved by the Board at the beginning of the month, whenever emergency conditions exist, such as equipment failure at the hydropower facilities, ship incidents such as grounding, electric system difficulties, extreme meteorologic conditions, or other conditions.

(e) The first workday of each week, the Power Entities shall provide to the Board a report of activity for the previous week. As a minimum, the report shall contain flows on an hourly basis for each day of the weekly reporting period. Standard daily plant water discharge and generation reports that contain this information will be acceptable. These reports should be transmitted electronically via e-mail to the Board's technical staff.

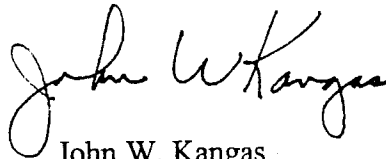
(f) The Power Entities shall notify the Board as soon as possible of any emergency condition that requires alteration of the approved peaking and ponding operations. The Board shall be informed of measures being taken to re-establish the approved operations.

(g) Notification shall be made by the Power Entities to the U.S. Coast Guard "Soo Control" and the Lockmaster at the Soo Locks Tower of any changes to the approved peaking and ponding flow rates (this is the current practice).

The Board reserves the authority delegated to it by the IJC to issue instructions pertaining to the suspension of peaking and ponding operations of the Power Entities within the authority set out by the IJC in its March 15, 2002 letter.

Should you have any questions, please feel free to contact us. The Secretary of the Canadian Section of the Board is sending a similar letter to Great Lakes Power Ltd.

Sincerely,



John W. Kangas
Secretary, U.S. Section

CF:

Dr. Gerald E. Galloway, Jr, U.S. Secretary, International Joint Commission
LTC Richard Polo, U.S. Regulation Representative
Mr. Peter P. Yee, Canadian Secretary, Lake Superior Board of Control



International Joint Commission

March 15, 2002

Brigadier General Steven R. Hawkins
Member, U.S. Section
International Lake Superior Board of Control

Dear General Hawkins:

Having considered the Board's February 28, 2002 report and public comment, the International Joint Commission is extending the authority for Edison Sault Electric Company and Great Lakes Power Ltd to conduct peaking and ponding operations.

Until March 20, 2003, the power entities may conduct peaking and ponding operations under the supervision of the International Lake Superior Board of Control. Such operations shall be subject to prior approval from the Board at the beginning of each month and shall be conducted in a manner consistent with the mode of operation outlined in the power entities' February 8, 2002, written submission to the IJC. The power entities shall coordinate peaking and ponding schedules with Board representatives at the beginning of each month. At the beginning of the month, the Board may suspend ponding operations for the month, or a portion thereof, if it expects that ponding operations would result in sustained weekend levels at the U.S. Slip Gauge declining below chart datum elevation. The Board may also alter or suspend peaking or ponding operations or both when it determines that emergency conditions exist such as equipment failure at the hydropower facilities, ship incidents such as groundings, electrical system difficulties, extreme meteorological conditions, or other circumstances. Apart from the foregoing peaking and ponding operations and emergencies where immediate action is necessary, the IJC's advance approval shall be obtained through the Board for any other deviations from the flow determined by Regulation Plan 1977-A.

We agree with the role of the Board in peaking and ponding operations, as outlined in the board's February 28, 2002 report, and look forward to receiving a report next year on the Board's additional observations and studies. We request that the board provide a oral briefing at the Commission's fall semi-annual meeting on its observations and studies to date, and that the board submit its written report by December 15, 2002. We also request that the board monitor the status of dredging proposed by the U.S. Army Corps of Engineers for the Little Rapids Cut area of the St. Marys River, which may begin as early as September 2002, and keep the Commission apprised of the schedule, impacts if undertaken, and implications regarding peaking and ponding operations and the authority provided by the Commission.

The Commission has deferred at this time consideration of the applications from Great Lakes Power Ltd and Edison Sault Electric Company to conduct further peaking and ponding operations as it has provided authority for them to conduct such operations under the supervision of the board for an additional year. The Commission retains the right to amend the authority

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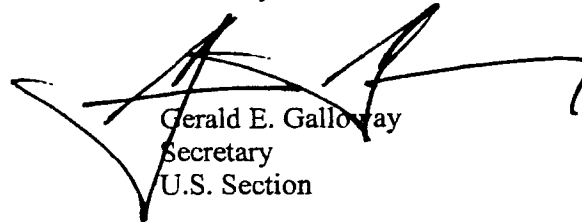
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provided regarding peaking and ponding operations in the St. Marys River at any time should circumstances so warrant. The Commission intends to review the situation and the authority provided prior to the start of the 2003 navigation season, taking into account the board's report, additional operational experience, any further studies, and the status of dredging activities.

Enclosed are copies of letters sent to the two federal governments, Edison Sault Electric Company, and Great Lakes Power Ltd.

A similar letter is being sent by the Secretary of the Canadian Section of the Commission to the Canadian Member of the Board.

Sincerely,



Gerald E. Galloway
Secretary
U.S. Section

Enclosures

cc: Mr. John Kangas, U.S. Secretary, International Lake Superior Board of Control



International Joint Commission

March 15, 2002

Mr. Donald Sawruk, President
Edison Sault Electric Company
725 Portage Avenue
Sault Ste. Marie, MI 49783

Dear Mr. Sawruk:

After considering the February 28, 2002 report of its International Lake Superior Board of Control and public comment, the International Joint Commission is extending the authority for Edison Sault Electric Company and Great Lakes Power Ltd to conduct peaking and ponding operations.

Until March 20, 2003, the power entities may conduct peaking and ponding operations under the supervision of the International Lake Superior Board of Control. Such operations shall be subject to prior approval from the Board at the beginning of each month and shall be conducted in a manner consistent with the mode of operation outlined in the power entities' February 8, 2002, written submission to the IJC. The power entities shall coordinate peaking and ponding schedules with Board representatives at the beginning of each month. At the beginning of the month, the Board may suspend ponding operations for the month, or a portion thereof, if it expects that ponding operations would result in sustained weekend levels at the U.S. Slip Gauge declining below chart datum elevation. The Board may also alter or suspend peaking or ponding operations or both when it determines that emergency conditions exist such as equipment failure at the hydropower facilities, ship incidents such as groundings, electrical system difficulties, extreme meteorological conditions, or other circumstances. Apart from the foregoing peaking and ponding operations and emergencies where immediate action is necessary, the IJC's advance approval shall be obtained through the Board for any other deviations from the flow determined by Regulation Plan 1977-A.

The Commission has asked its Board to assume the role defined in its February 28, 2002 report, provide a verbal briefing to the Commission this fall on its observations and studies to that date, and submit a written report by December 15, 2002. We have asked the Board to monitor the status of dredging proposed by the U.S. Army Corps of Engineers for the Little Rapids Cut area of the St. Marys River, which may begin as early as September 2002, and keep the Commission apprised of the schedule, impacts if undertaken, and implications regarding peaking and ponding operations and the authority provided by the Commission.

The Commission has deferred at this time consideration of the applications from Great Lakes Power Ltd and Edison Sault Electric Company to conduct further peaking and ponding operations as it has provided authority for them to conduct such operations under the supervision

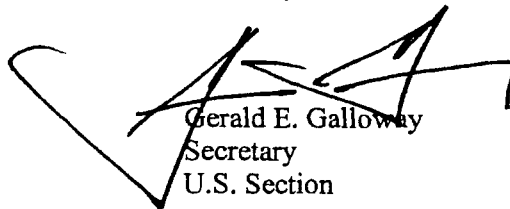
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of the board for an additional year. The Commission retains the right to amend the authority provided regarding peaking and ponding operations in the St. Marys River at any time should circumstances so warrant. The Commission intends to review the situation and the authority provided prior to the start of the 2003 navigation season, taking into account the board's report, additional operational experience, any further studies, and the status of dredging activities.

Should you have any questions, please feel free to contact us. A similar letter is being sent by the Secretary of the Canadian Section of the Commission to Great Lakes Power.

Sincerely,



Gerald E. Galloway
Secretary
U.S. Section

cc: Mr. John Kangas, Secretary, U.S. Section, International Lake Superior Board of Control
Ms. Nancy Mason, U.S. Department of State

Enclosure B

(U.S. Coast Guard Group Sault Ste. Marie April 2002 VTS Logs)

Contents:

1. Review of U.S. Coast Guard Group Sault Ste. Marie's Vessel Transit (VTS) Logs for April 2002.
2. Spreadsheet summary of the April VTS logs.
3. E-mail questions about VTS log entries and Coast Guard response

Review of U.S. coast Guard, Group Sault Ste. Marie VTS Logs for April 2002

1. Since weekend ponding operations were suspended at the Sault Ste. Marie, Michigan and Ontario hydropower plants copies of the U. S. Coast Guard's vessel transit system (VTS) logs for April were requested. The purpose was to review them in order to determine how many vessels transiting the St. Marys River system went to anchor during their transit, the reasons for going to anchor and the approximate elapsed time at anchor. Both upbound and downbound vessels were looked at. Copies of the VTS logs received from the Coast Guard are on file at the Detroit District.

2. A spreadsheet was prepared from the VTS logs listing information about each anchorage event. There were fifty-nine (59) recorded anchorage events. The reasons recorded for going to anchor were listed in the spreadsheet as Low Water, Low Visibility, Ice, Waiting for Daylight, Weather (WX), Waiting for Orders and Other.

3. Discussion of anchorage events:

a. Low Water -- There were two events listed as due to low water:

-- The Yarmouth, downbound, with a draft of 26'-3" was at anchor above the Soo Locks for about 8-1/2 hours from 2120 hours Wednesday April 10th until 0556 hours on Thursday April 11th. During this period U.S. Slip ranged from about 2 inches to about 5 inches below chart datum. By 0800 hours on Thursday April 11th the water levels at U.S. Slip Gauge were above datum.

-- The second event did not appear to be a low water event triggered by U.S. Slip gauge levels being below datum. The Algosteel with a draft of 22'-7" was upbound. It cleared the Soo Locks and went to anchor near Parisienne above the Locks at 0822 hours on Thursday April 11th. The Algosteel was at anchor about 10 hours getting underway at about 1848 hours on April 11th. It appears that the Algosteel went to anchor until sufficient draft in the upper pool became available for it to dock at the Algoma Steel docking area.

b. Low Visibility -- When fog, snow or other weather related disturbances significantly reduce visibility on the St. Marys River creating a hazard for navigation the U.S. Coast Guard at the Soo will close down the River until conditions improve. This happened four (4) times during April resulting in sixteen (16) vessels going to anchor for periods ranging from about one (1) hour to as much as twenty (20) hours.

c. Ice -- There were no reported anchorages due to ice problems. The Coast Guard did provide icebreaker assistance to vessels in the Middle Nebbish channel area on April 4, 2002.

d. Waiting for Daylight -- During the winter "ice bouys" are used to mark the channels. These bouys are un-lit. When foreign flagged vessels traverse the St. Marys River pilots may not be familiar with the navigation equipment on-board, and because

there are no lighted aids to follow the pilots will anchor until daylight before transiting the River. There were twelve (12) instances of this happening during April.

e. Weather ("WX") -- Weather (snow, rain, wind, etc.) will cause some vessel masters to go to anchor rather than transit the River during rough conditions. There were six (6) instances of this happening during April. Strong winds will also cause significant fluctuations in water levels along the River, further contributing to vessel master's caution.

f. Waiting for Orders -- Generally occurs with foreign flagged vessels. The vessel master will often seek safe harbor or refuge in Whitefish Bay or inside Detour at anchor while awaiting a decision on changes to orders from the vessel's parent company. This occurred only one (1) time during April.

g. Other -- General category. This category was used twice as follows:

-- On April 1, 2002 the tug Atlantic Cedar was downbound. It was at anchor for about 11-1/2 hours while rigging a barge carrying steel coils for a lake transit to Chicago.

-- On April 15, 2002 the Algowood ran aground in mid-channel off Mission Point near Sugar Island in the St. Marys River. The Algowood was downbound with a cargo of coal and at a draft of 26'-0". This resulted in the closing of the St. Marys River between Six Mile point and the Soo Locks. Twenty-one (21) vessels went to anchor for periods ranging from about six (6) hours to about thirty-one (31) hours over the period April 15th to 17th, 2002. This event occurred during a period of fog in the area. The River had been shut down at 2018 hours on Sunday April 14, 2002, reopened at 0851 hours on Monday April 15, 2002 and shut down at 0915 hours on April 15th when the Algowood ran aground. The Coast Guard indicates that low visibility contributed to the grounding. The levels at U.S. Slip were 176.36 m (578.36 ft), 176.38 m (578.69 ft), and 176.41 m (578.76 ft) at 0800, 0900, and 1000 hours respectively. The channel depth below the locks in the Mission Point area is indicated as 27 ft to 28 ft so there should have been sufficient available draft.

Prepared by Carl Woodruff
November 12, 2002
Rev-1 November 21, 2002

Summary of April 2002 U.S. Coast Guard, Sault Ste. Marie Vessel Transit Logs													
Date	Vessel name	UB or DB	Draft	A/A Time	U/W Time	Elapsed time A/A	Reason for Going to Anchor Low Water	Ice	Waiting for Daylight	WX	Waiting for Orders	Other	Remarks
April 1, 2002	Yarmouth Atlantic Cedar	UB DB	23'-11" 19'-8"	2116 hrs 1451 hrs					X			X	Tug w/low
April 2, 2002	Yarmouth Atlantic Cedar	UB DB	23'-11" 19'-7"		0552 hrs 0222hrs	8-1/2 hrs 11-1/2 hrs							
April 3, 2002	Lake Ontario	UB	21'	0001 hrs	0630 hrs	6-1/2 hrs			X				
April 4, 2002	Ice problems reported in Middle Neebish -- No Layups recorded.												
April 5, 2002	No layups reported												
April 6, 2002	No layups reported												
April 7, 2002	St. Marys river closed and at 2313 hrs vessels in system directed to anchor due to low visibility (Fog)												
	Burns Harbor	UB	23'-6"	2020 hrs			X						
	Presque Isle	DB	26'-00"	2330 hrs			X						
	Roger Blough	DB	26'-2"	2348 hrs			X						
April 8, 2002	At 0624 hrs St. Marys River re-opened												
	Burns Harbor	UB	23'-6"		0649 hrs	10 hrs							
	Presque Isle	DB	26'-00"		0714 hrs	8 hrs							
	Roger Blough	DB	26'-2"		0714 hrs	8 hrs							
	At 1035 hrs closed St. Marys River due to fog and low visibility.												
	Avenger IV	UB	18'-0"	0005 hrs	0722 hrs	7-1/2 hrs	X						
	Algocape	DB	26'-1"	0235 hrs	0702 hrs	4-1/2 hrs	X						
	Atlantic Erie	UB	23'-6"	0548 hrs	0650 hrs	1 hr	X						
	Lake Ontario	DB	26'-3"	0943 hrs			X						
	Jane Anne IV	DB	24'-4"	1140 hrs	1647 hrs	5 hrs	X						
	Peter R. Cresswell	DB	24'-1"	1200 hrs	1602 hrs	4 hrs	X						
	Lee A. Tregurtha	UB	23'-6"	1355 hrs	1610 hrs	2 hrs	X						
	Strange Attractor	UB	24'-7"	1546 hrs			X						
April 9, 2002	Lake Ontario	DB	26'-3"		0606 hrs	20 hrs							
	Strange Attractor	UB	24'-7"		0626 hrs	15 hrs			X				
	Konigsborg	DB	24'-11"	2000 hrs									
April 10, 2002	Konigsborg Yarmouth	DB DB	24'-11" 26' 3"	2120 hr s	0602 hrs	10 hrs		X					
April 11, 2002	Yarmouth Algosteel	DB UB	26'-3" 22'-7"	0822 hrs	0556 hrs 1848 hrs	8-1/2 hrs 10 hrs	X**						Reported as went to anchor due to low water levels. Cleared locks upbound and went to anchor near Parisienne. Due to vessels draft and sufficient water depth available in St. Marys River at the time it appears the vessel was waiting for sufficient draft to become available in the upper pool area at the Algoma Steel docking area. Low water levels may have been weather / wind related.
April 12, 2002	No layups reported												

Summary of April 2002 U.S. Coast Guard, Sault Ste. Marie Vessel Transit Logs																
Date	Vessel name	UB or DB	Draft	A/A Time	U/W Time	Elapsed time A/A	Reason for Going to Anchor	Low Water	Low Visibility	Ice	Waiting for Daylight	WX	Waiting for Orders	Other	Remarks	
April 13, 2002	At 0020 hrs St. Marys River closed due to low visibility															
	Catherine Desgagnes	UB	18'-6"	0110 hrs					X							
	Walter J. McCarthy	UB	21'-6"	0540 hrs					X							
	Lee A. Tregurtha	UB	27'-6"	0723 hrs					X							
	At 0842 hrs St. Marys River reopened.															
	Catherine Desgagnes	UB	18'-6"		0921 hrs	8 hrs										
	Walter J. McCarthy	UB	21'-6"		0926 hrs	4 hrs										
	Lee A. Tregurtha	UB	27'-6"		0921 hrs	2 hrs										
April 14, 2002	At 1818 hrs St. Marys River closed due to low visibility.															
	George A. Stinson	UB	19'-6"	2220 hrs				X								
	Burns Harbor	UB	23'-6"	2330 hrs				X								
April 15, 2002	At 0851 hrs reopened St. Marys River to traffic.															
	George A. Stinson	UB	19'-6"		0900 hrs	10-1/2 hrs										
	Burns Harbor	UB	23'-6"		0740 hrs	8-1/2 hrs										
	Lake Michigan	UB	21'-0"	0150 hrs	0835 hrs	6 hrs										
	Charles M. Beeghly	UB	23'-1"											X	Initially Low Visibility; later delays due to Algwood grounding	
April 16, 2002	At 0915 M/V Algwood (Draft 26'-0") downbound ran aground mid-channel off Mission Point															
	St. Marys River closed to traffic between Six Mile Point and Soo Locks.															
	Lake Michigan	UB	21'-0"	1003 hrs												
	George A. Stinson	UB	19'-6"	1122 hrs										X	Algwood Grounding	
	Burns Harbor	UB	23'-6"	1232 hrs										X	Algwood Grounding	
	Mesabi Miner	DB	26'-2"	1615 hrs										X	Algwood Grounding	
	John B. Ard	DB	26'-5"	1705 hrs										X	Algwood Grounding	
	Herbet C. Jackson	UB	23'-4"	1818 hrs										X	Algwood Grounding	
	Atlantic Erie	UB	23'-0"	1934 hrs										X	Algwood Grounding	
	Columbia Star	UB	23'-0"	2047 hrs										X	Algwood Grounding	
	Canadian Navigator	UB	22'-5"	2200 hrs										X	Algwood Grounding	
	St. Marys River continues closed.															
	Twenty (20) vessels delayed at anchor due to Algwood grounding.															
	At 1239 hrs St. Marys River re-opened to traffic.															
	Charles M. Beeghly	UB	23'-1"		1322 hrs	31 hrs										Algwood Grounding
	Lake Michigan	UB	21'-0"		1259 hrs	27 hrs										Algwood Grounding
	George A. Stinson	UB	19'-6"		1259 hrs	25-1/2 hrs										Algwood Grounding
	Burns Harbor	UB	23'-6"		1309 hrs	24 hrs										Algwood Grounding
	Mesabi Miner	DB	26'-2"		1404 hrs	22 hrs										Algwood Grounding
	John B. Ard	DB	26'-5"		1415 hrs	21 hrs										Algwood Grounding
	Herbet C. Jackson	UB	23'-4"		1404 hrs	20 hrs										Algwood Grounding
	Atlantic Erie	UB	23'-0"		1442 hrs	19-1/2 hrs										Algwood Grounding
	Columbia Star	UB	23'-0"		1605 hrs	19 hrs										Algwood Grounding
	Canadian Navigator	UB	22'-5"		1759 hrs	18 hrs									X	Algwood Grounding
	Joyce L. Van Enkevort	UB	22'-0"	0443 hrs	1939 hrs	15 hrs									X	Algwood Grounding
Canadian Mariner	UB	20'-1"	0526 hrs	2100 hrs	15-1/2 hrs									X	Algwood Grounding	
Algosoos	UB	22'-7"	0931 hrs	2130 hrs	12 hrs									X	Algwood Grounding	

Mr. Woodruff,

I hope the following info helps. We are presently working on a new database to better capture events in the St. Marys River in particular, "Why are vessels at anchor" and I'm planning on sending you a monthly report. We transmit a monthly report to Headquarters and I can include you if you like. In the near future the monthly reports will be available on the internet and I will provide you with the link when it's on line, this should fill your needs. One thing you will notice is the common reference to weather, the one thing you have to keep in mind is, which direction the wind is blowing and for how long the wind blew in that direction, it has a large impact on the water levels.

Please keep in touch and thank you for your input, hopefully we can determine the problems and an effective means to resolve them.

QMC Burch

Chief Burch:

Thanks again for the April 2002 VTS log sheets you sent. I have gone through them and have several questions about the information in them. Rather than call you I am writing this e-mail so you can have some time to reference the sheets in question. Here goes:

1. General: Please give definitions of, or explain the following terms from the log sheets remarks columns:

-- "Waiting for Orders" -- Has the vessel captain gone to anchor while awaiting some direction from his home base on what to do or where to travel to next?
[Sturos, J QM1] Awaiting orders or waiting orders. Almost always happens for Salties, a ship might get here, then the company decides to change the orders. Sometimes a saltie will seek safe harbor / refuge in Whitefish Bay or inside Detour, at anchor until a decision is made by the parent company.

-- "Night", "Daylight", or "Waiting for Daylight" -- Is the vessel captain, or pilot waiting for daylight to transit the St. Marys River and the Locks? If so, is this due to their opting to be cautious and not wanting to risk a night passage due to the higher risk, or are there other reasons?
[Sturos, J QM1] To answer this is very easy, "Yes" you are correct. To explain it a little further, every Winter almost every lighted Buoy is changed out with "ice buoys" which most are un-lit. Our Lakers (US and CA vessels) can still navigate the St. Marys River with little problem. It is our "river pilots", who are on-board the salties, who anchor due to darkness / awaiting daylight, because of the lack of and/or unfamiliar with the navigation equipment on-board and lack of lighted Aids marking the channels, the pilots will anchor vice transiting the river awaiting daylight.

-- "WX" ? [Sturos, J QM1] The standard USCG abbreviation for "Weather"

-- I/B or I/O in the remarks column of the detailed time and location log?
[Sturos, J QM1] I/B is "In Ballast". I/O is "Iron Ore", which would be same as "Taconite" or even "Pellets".

-- Flag designations NO, RM, MS, PN, HK, NL, CY, LI, MT, UP, UK, BB, GR, [Sturos, J QM1] First I am embarrassed, the "MS" was the country abbreviation code for "Marshall Islands", the code was replaced with "RM" at some time between 1996-2001, I wish I could tell you exactly. That is a fault of ours from using 2 different resources. Here are the definitions. NO - Norway RM / MS - Marshall Islands PN - Panama (which was changed to "PM") HK - Hong Kong (CH is for China) NL - Netherlands

CY - Cyprus LI - Liberia MT - Malta UP - Ukraine UK - United Kingdom BB - Barbados GR - Greece

2. April 4, 2002: On the VTS St Mary's River Chrono Log (**CLog**) at 0107 hrs the note "Edwin H. Gott reports plates shifting below bouys 6 & 7 and below Munuscong Lake Junction." -- Is the "plates shifting" a reference to ice movement, or something else? [Sturos, J QM1] You are correct, it is in reference to "ice breaking" season.

3. April 10, 2002: The VTS St. Marys River Anchor Management Log (**AMLog**) indicates that the vessel "Yarmouth" (downbound with a draft of 26'-3") went to anchor upstream of the Soo Locks about 2 NM from Bay Mills Pt. The remarks column indicates the "Low Water Levels". Would this be a reference to low water levels downstream of the locks in the Lower St. Marys River and the Yarmouth Captain's concern about sufficient draft being available in the lower St. Marys River channels? [Sturos, J QM1] The only correct answer would come from the pilot that anchored the vessel, but as you and I sit here, I feel it is safe to assume you are correct.

4. April 11, 2002: On the AMLog the remark "Low Wtr Levels" is made with regard to the entry for the vessel "Algosteel" which was U/B. It went to anchor at 0822 and was UW again at 1848. I note that the vessel was showing a draft of 22'-7". Was the remark a reference to low water in the St. Marys, or to low water at some other destination point? My records indicate that there should have been sufficient water depth available in the river to support a vessel draft of 22'-7". [Sturos, J QM1] Algosteel is one of our few customers, who regularly transit to "Algoma Steel". Those vessels who go to "Algoma", are always concerned about the upper pool level, because that has an effect on "Algoma's" pier face. In this case, I would bet on that scenario along with the weather (WX) changing, especially since he was only at anchor for 10 hours.

5. April 23, 2002: The "VTS St. Mary's River Daily Traffic Summary" page was included but not the CLog, AMLog or the Upbound and Downbound vessel tracking log sheets. I note that on April 22 two vessels were at anchor, and on April 24 three vessels were at anchor. the remarks column indicated they were at anchor awaiting daylight, orders or "WX". Please check the logs and advise which if any vessels were at anchor on April 23 and the reasons for being at anchor. [Sturos, J QM1] Looking back on the 24th of April log, M/V Johanna C was the only vessel at anchor, and the log states "Awaiting Orders". He got underway from anchorage on the 25th of April, he is one of my examples from your first question, he was anchored there since the early evening of the 23rd of April (appx 39 hours).

I think that is all I have for April.

In my FOIA letter I asked if it would be possible to receive future VTS Log information. I see that providing copies of every days output of several pages would be a voluminous undertaking in order to obtain information about occasional anchorages caused by low water events. After reviewing the April logs I see that the VTS St. Marys River Daily

Traffic Summary daily sheets would give me an overview of activity and the daily Anchor Management Log sheets would give me an indication of what ships went to anchor and why. If necessary to document a specific event then further information could be requested for specific dates. Is it possible to set up an arrangement to receive copies of these daily log sheets via fax, or mail on a regular basis daily, or in batches of a week or month at a time?

Thanks for your time and effort in this. An e-mail response to the questions above will be fine, unless you feel a telephone call is better.

Carl L. Woodruff, P.E.
Hydraulic Engineer
U.S. Army Corps of Engineers
Detroit District
Great Lakes H&H Office
Watershed Hydrology Branch
Phone: (313) 226-2202
Fax: (313) 226

Enclosure C

(Hydropower comments)

Contents:

1. November 7, 2002 letter from ESEC commenting on peaking and ponding.
2. October 23, 2002 e-mail from GLPL commenting on peaking and ponding.
3. October 17, 2002 letter to ESEC requesting comments on peaking and ponding (A similar letter was sent to GLPL).

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November 7, 2002

Mr. John W. Kangas
Secretary, U.S. Section
International Lake Superior Board of Control
111 North Canal Street, 6th floor
Chicago, IL 60606-7205

Dear Secretary Kangas:

Thank you for requesting our comments and observations regarding the peaking and ponding operations of electric generating facilities during this year. By letter dated March 15, 2002, the International Joint Commission extended the authority for Edison Sault Electric Company and Great Lakes Power Ltd. to conduct peaking and ponding operations. As it has in the past, Edison Sault continued to operate its hydro plant this year in a peaking and ponding manner in order to meet the electric needs of our customers and to operate the plant in the most cost-effective and productive manner.

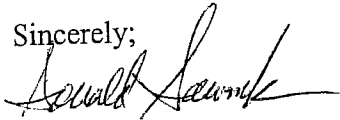
Our February 8, 2002 comments submitted in the IJC's inquiry into peaking and ponding concluded that hydro peaking and ponding operations had minimal effects on water elevation levels near the locks and the hydro plants, and had a negligible effect on the critical elevation in the Rockcut area. The primary factor that influences the levels in the lower St. Marys River is the variability of the level of Lake Huron. Notwithstanding these findings, the IJC issued directives that mandated that power generation be maximized during eight-hour periods on weekends when the water elevation levels were below low water datum levels.

Water elevation levels were projected to be below low water datum levels in April 2002, and as directed, Edison Sault peaked its hydro plant for eight hours on the weekends. In subsequent months, Lake Huron's water elevation levels rose, and the IJC's weekend low water datum directive was not a factor. Edison Sault continued to operate its hydro plant in a peaking and ponding mode, using its allocated water (and any water that could not be used by the U. S. Corp hydro plant due to its automation project.) Edison Sault was not made aware of any party that was adversely impacted by the peaking and ponding operations. We would be interested, however, in being informed as to the number of Fed Nav. vessels that were positively affected by our weekend operations.

I would also like to call to your attention the operations on September 20, 2002. On that day, the Wisconsin Central Railroad and Edison Sault performed scheduled underwater inspections of the railroad bridge footings and the power canal headgate facilities. For the safety of the workers, the flow in the power canal was substantially reduced, resulting in a ponding situation. The U. S. Corp of Engineers notified interested parties in advance of the scheduled maintenance. To our knowledge, no parties were adversely impacted by these maintenance activities. These circumstances do however, show the need to maintain flexibility in the control of water flows.

Our comments submitted in the IJC's inquiry pointed out the operational and economic benefits of peaking and ponding. Based upon our experience, Edison Sault requests that the Board recommend that peaking and ponding operations be allowed to continue.

Sincerely;

A handwritten signature in black ink, appearing to read "Donald Sawruk", written over a horizontal line.

Donald Sawruk,
President

Cc: Dr. Gerald E. Galloway
LTC Thomas Magness
Mr. Peter P. Yee
Colin Clark, Great Lakes Power

GLPL RE Peaking and Ponding Operations.txt

From: Peter_Yee@pch.gc.ca
Sent: Wednesday, October 23, 2002 12:06 PM
To: Strum, Marie T; Woodruff, Carl L
Cc: DougC@ottawa.ijc.org; Jacek, Stanley R; Manam, Rao P;
David_Fay@pch.gc.ca; Rob_Caldwell@pch.gc.ca; Schweiger, David L; Kangas, John W
Subject: RE: Peaking and Ponding Operations

Carl and Marie:

Inputs for our December report to the IJC.

Peter

----- Forwarded by Peter Yee/Est-East/PCH/CA on 10/23/2002
12:02 PM -----

"Andy McPhee" <amcphee@glpg.ca> on 10/23/2002 11:19:39 AM

To: <Peter_Yee@pch.gc.ca>
cc: "Andy McPhee" <amcphee@glpg.ca>
Subject: RE: Peaking and Ponding Operations

Peter: Sorry to take so long in replying. Great Lakes Power does not have any further comments to add regarding the peaking and ponding operations which occurred in April.

Thanks Andy

-----Original Message-----

From: Peter_Yee@pch.gc.ca [mailto:Peter_Yee@pch.gc.ca]
Sent: Wednesday, October 16, 2002 9:08 AM
To: amcphee@glp.on.ca
Cc: John.W.Kangas@usace.army.mil; Carl.L.Woodruff@usace.army.mil;
David_Fay@pch.gc.ca; Rob_Caldwell@pch.gc.ca
Subject: Peaking and Ponding Operations

Andy:

The International Joint Commission (IJC) has requested the International Lake Superior Board of Control (Board) for a follow-up report on experience to date with peaking and ponding operations in the St. Marys River.

The Board is requesting any input that Edison Sault Electric Company (ESEC) and Great Lakes Power Limited (GLPL) may wish to include as part of the report. April is the only month so far that the Board suspended peaking and ponding operations on weekends and required an 8 hour window of peak flow on Saturdays and Sundays to assist shippers.

If you have any comments on how the Board's management of peaking and ponding impacted GLPL's operations, economics, etc., or comments in general about peaking and ponding impacts on the St. Marys River please feel free to provide them for inclusion and consideration in the report.

Carl Woodruff in Detroit has sent a similar e-mail to Don Sawruk of Edison Sault.

Peter

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Cc: DougC@ottawa.ijc.org; Jacek, Stanley R; Manam, Rao P;
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cc: "Andy McPhee" <amcphee@glpg.ca>
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Cc: John.W.Kangas@usace.army.mil; Carl.L.Woodruff@usace.army.mil;
David_Fay@pch.gc.ca; Rob_Caldwell@pch.gc.ca
Subject: Peaking and Ponding Operations

Andy:

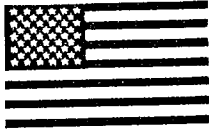
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Carl Woodruff in Detroit has sent a similar e-mail to Don Sawruk of Edison Sault.

Peter



United States
BG Steven R. Hawkins, Member
Mr. John W. Kangas, Secretary

INTERNATIONAL LAKE SUPERIOR BOARD OF CONTROL



Canada
vacant, Member
Mr. Peter Yee, Secretary

October 17, 2002

Mr. Donald Sawruk, President
Edison Sault Electric Company
725 East Portage Avenue
Sault Ste. Marie, Michigan 49783

Dear Mr. Sawruk:

This letter is to invite your comments and observations regarding peaking and ponding operations during this year to date. The International Lake Superior Board of Control (Board) has been tasked by the International Joint Commission (IJC) with providing a report, by December 15th, on our studies and observations on this subject. In order to meet the IJC deadline, and to consider your input, your response by November 12 would be greatly appreciated.

Should you have any questions, please feel free to contact the Board. The Secretary of the Canadian Section of the Board is sending a similar request to Great Lakes Power Ltd.

Sincerely,

John W. Kangas
Secretary, U.S. Section

CF:

Dr. Gerald E. Galloway, Jr, U.S. Secretary, International Joint Commission
LTC Thomas Magness, U.S. Regulation Representative
Mr. Peter P. Yee, Canadian Secretary, Lake Superior Board of Control

Enclosure D

(Navigation Comments)

Contents:

1. September 20, 2002 notes from a telecon between Peter Yee and Messrs. Philippe Roderbourg and Ivan Lantz regarding Canadian shipping interests comments on peaking and ponding. . November 26, 2002 Ms. Helen Brohl of U. S. Great Lakes Shipping Association (USGLSA) responded by telephone to indicate that the USGLSA concurs with these comments.
2. October 4, 2002 comments from Rick Harkins regarding Lake Carriers Association comments on peaking and ponding.

RE Peaking and Ponding on the St. Marys River.txt
Peaking and Ponding on the St. Marys River
From: Richard W. Harkins
[harkins@lccaships.com]
Sent: Friday, October 04, 2002 4:17 PM
To: Woodruff, Carl L LRE
Subject: RE: Peaking and Ponding on the St. Marys River

Carl
No comments from our captains. It never was an issue with us to begin with.
RICK

-----Original Message-----

From: Woodruff, Carl L LRE [mailto:Carl.L.Woodruff@lre02.usace.army.mil]
Sent: Friday, October 04, 2002 2:26 PM
To: Rick Harkins (E-mail); Helen A. Brohl (E-mail)
Cc: Kangas, John W LRDGL; Schweiger, David L LRE; Peter Yee (E-mail)
Subject: Peaking and Ponding on the St. Marys River

Helen and Rick:

Just want to touch base with you.

The International Lake Superior Board of Control will be preparing a followup report for the IJC on peaking and ponding experiences in the St. Marys River this year.

Have you received any comments from your vessel captains regarding any problems due to low water levels in the St. Marys River, or any other comments on the flows and levels?

Note that so far April is the only month that peaking and ponding operations were suspended by the Board due to below datum levels at U.S. Slip, in accordance with the guidelines governing peaking and ponding operations. On the weekend days in April a window of peak flows was provided during the day.

Peter Yee has been in contact with Ivan Lantz (Shipping Federation of Canada) and Philippe Roderbourg (Fednav International Ltd.) and they indicated that there were no complaints.

Any other comments regarding operations this summer that you would like to pass on for consideration will be greatly appreciated.

Thank you.

Carl L. Woodruff, P.E.
Hydraulic Engineer
U.S. Army Corps of Engineers
Detroit District
Great Lakes H&H Office
Watershed Hydrology Branch
Phone: (313) 226-2202
Fax: (313) 226-2398

Peaking and Ponding Operations in the St. Marys River
September 20, 2002

I had a telephone conversation with Ivan Lantz and Mr. Philippe Roderbourg on September 20, 2002. Both are content with the way peaking and ponding operations have been governed, and carried out. The following are my notes:

Mr. Ivan Lantz of the Shipping Federation of Canada:

- no complaints from users regarding peaking and ponding throughout the summer months,
- traffic volume quite down, by 30% on upper lakes, thus less opportunity for concern,
- grain is poor business and Wheat Board has retired from international market this year, ships are ballasting out,
- with water level above datum, it is easier to function,
- nobody has told me about short loading this year, haven't gone out and asked,
- guidelines governing peaking and ponding so far so good, and
- there was not enough traffic to support suspension of ponding in April this year, we could have gotten away with it (ponding) if we had first checked with clients' needs.

Mr. Philippe Roderbourg, Fednav International Limited:

- no impact since blessed with Lake Huron sufficiently high this year compared to 2001,
- effects of peaking and ponding were not affecting us this summer,
- didn't have to ask to reduce ship loads because of water levels,
- there were delays not because of levels but visibility and absence of navigation aids,
- no cargo was left behind in Lake Superior ports,
- has been a plus to-date,
- more worried about St. Lawrence River this time of the year, where levels seem to be less predictable especially at Montreal. On St. Marys River, at least we know, have a chance to assess the effect of peaking and ponding, and weather circumstances,
- no problems with things are working now and let's go until next June (2003),
- no impacts on ocean-going ships when water levels are high, and
- if levels are three feet above datum, we won't be looking at the data, we should study when levels are low, and have to pay more attention as levels approach datum, thus it is prudent to extend the study especially if we go into low levels.

Peter Yee
Secretary, Canadian Section
International Lake Superior Board of Control

Enclosure E
(Great Lakes Fishery Commission and Sea Lamprey Control Centre Comments)

Kangas, John W LRDGL

From: gavin [gavin@glfc.org]
Sent: Tuesday, December 10, 2002 12:17 PM
To: Woodruff, Carl L LRE
Cc: Kangas, John W LRDGL; Peter_Yee (E-mail)
Subject: St. Marys River peaking and pounding.

Dear Carl,

So sorry for not getting to you sooner. I hope you have had good luck assembling your report. This note may well be too late and for that I am sorry.

We did not experience any deleterious effects of peaking and pounding on our sea lamprey control program. The program that would have some likelihood of being affected is our trapping program. As you can see from the note below from Rod McDonald, (Adult Assessment Supervisor, Sea Lamprey Control Centre, Department of Fisheries and Oceans, Canada) he did not see any negative effects.

We plan to carry out some spot treatment of sea lamprey larvae in the river during the next few summers. Unless extremely high flows are encountered, we do not anticipate ill effects.

Gavin Christie

Gavin

Our office, through Larry Schleen, submitted a statement re. this issue to the IJC the last time they asked (last Spring?).

In it we indicated that there were no effects from these practices that appreciably affected the work of the larval & control units in the St. Marys. In 2002 it remained true that their work was not impacted.

We also suggested that adult work (specifically trapping) could potentially be affected by these practices at very low water levels (as in 2001) or even lower levels, but that our greater issue was with the low water levels in general, about which relatively little could be done. In 2002, water levels were in fact up a little and neither the water level, nor peaking & ponding, affected operations appreciably (that we are aware!).

I would say that, unless water levels return to those of 2001 or lower, peaking & ponding are not issues with us.

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## Enclosure F (2-D Hydraulic Model)

### Investigation of a 2-D Hydrodynamic Model For Use In Studying Peaking and Ponding Operations on the St. Marys River

To help assess the effects of peaking and ponding on the St. Marys River, it was determined that a 2-dimensional model/analysis would be needed. Initial investigations found that Dr. Shen of Clarkson University had developed a 2-D hydrodynamic model (RMA-2) to study lampricide dispersal in the St. Marys River. Upon receiving this model, a review was completed, in coordination with Environment Canada, to determine if this model could be used “as is” or as a “starting point” for the peaking and ponding model. For reasons listed below, it was determined that the lampricide model should not be used and that a new 2-dimensional model should be developed.

- There was limited documentation available regarding the model’s development.
- The model didn’t extend the full length of the peaking and ponding study area
- It was unclear as to what datum the model grid was referencing
- Many questions were unanswered regarding the origin of the bathymetry data and the development of the model’s grid.
- Assumptions that went into the model development were not documented
- While examining the model results, inconsistencies and potential problems were discovered. An example of this was seen on the East Side of Neebish Island – at this point, the river was flowing in the wrong direction, and computed velocities were unreasonably high (11 m/s). A more detailed review would have to take place to fully understand these problems.
- A suspect boundary condition was used on the East Side of Neebish Island.
- There was no clear standing of how or why certain material types (which provide the roughness coefficients for the channel) were chosen.

In summary, after reviewing the existing model, it is recommended that a new model be created to answer the St. Marys River peaking and ponding questions. The new modeling package will use SMS (Surface Water Modeling System) as a graphical pre and post processor and RMA-2 as the 2-dimensional numerical model.